Classroom R Lab 1

Research Methodology – Quantitative

In this Classroom-R Lab we will work on the dataset `DASW.csv` associated with Case Study 1. For a description of the variables contained in the dataset please refer to RLab1. Here the idea is to apply some basic descriptive statistics reported in the *Descriptive statistics* and *Data visualization* didactic modules to highlight relevant properties or relations contained in the data set.

Exercise 1.1 Provide a graphical representation using the graphical function `plot()` to show the relationship between Time on Task 1 (at occasion/time 1) and Time on Task 1 (at occasion/time 2). **Note:** In general, `plot(X,Y)` yields a scatterplot between a quantitative variable X (represented in the horizontal axis) and a quantitative variable Y (represented in the vertical axis). Repeat the application of the graphical function `plot()` to the other two pairs of time on task variables: a) Time on Task 2 (at occasion/time 1) and Time on Task 2 (at occasion/time 2) b) Time on Task 3 (at occasion/time 1) and Time on Task 3 (at occasion/time 2).

Exercise 1.2 For each of the three time on task variables compute the correlation between occasion/time 1 and occasion/time 2.

Exercise 1.3 Repeat the correlational analyses for the time on task variables by limiting the observations in the data set to male participants only. Next, rerun the analyses this time considering the female group.

Exercise 1.4 Verify if there is an association between Task success on Task 1 (at occasion/time 1) and Task success on Task 1 (at occasion/time 2). **Hint:** Use the descriptive Chi-square statistic to measure the level of association between the two variables.

Exercise 1.5 Check if there is an association between Gender and Task success on Task 1 (at occasion/time 2).

Exercise 1.6 Check if there is an association between Gender and the satisfaction item Sat2.

Exercise 1.7 Repeat exercises 1.4, 1.5, and 1.6 this time using the normalized Chi-squared statistic.